

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1.(Currently Amended) A diversity receiver comprising;
a first receiving branch having associated thereto a first antenna element; and
at least a second receiving branch having associated thereto a second
antenna element, the diversity receiver comprising element:

first means for obtaining from a first signal on the first receiving branch and a
second signal on the second receiving branch a third signal representing an
estimation of a spatial derivative of at least one receiving channel parameter,
parameter;

second means for processing the third signal to obtain a fourth signal;
third means for processing the first signal to obtain a fifth signal; and
fourth means for combining the fourth signal and the fifth signal to obtain an
output signal;

wherein the third signal is used to cancel or at least reduce signal distortions
that occur due to time-variations of the receiving channel.

2.(Previously Presented) The diversity receiver according to claim 1, wherein
the first antenna element and the second antenna element are closely spaced and
arranged behind each other in the direction of motion (v) of the diversity receiver.

3.(Previously Presented) The diversity receiver according to claim 1, wherein
the first means obtain the third signal as a difference between the first signal and the
second signal.

4.(Previously Presented) The diversity receiver according to claim 1, wherein the third signal is interpreted as a temporal derivative of the at least one receiving channel parameter, at least when the diversity receiver is moved.

Claim 5 (Canceled)

6.(Currently Amended) The diversity receiver according to claim 5, wherein one or more of the first means, the second means, the third means, and the fourth means are fully or in part realized by hardware interacting with software or by discrete components.

7.(Currently Amended) The diversity receiver according to claim 5, wherein the second means perform one or more of the following functions: filtering, sampling, A/D-conversion, serial-to-parallel conversion, multiplying with a ramp function, (Fast) Fourier Transforming, multiplying with a crosstalk matrix, and signal weighting.

8.(Currently Amended) The diversity receiver according to claim 5, wherein the second means perform a signal weighting function comprising a multiplication with a weighting factor (α ; d/v) controlled to minimize the signal distortions.

9.(Currently Amended) The diversity receiver according to claim 5, wherein the third means perform one or more of the following functions: filtering, sampling, A/D-conversion, serial-to-parallel conversion, and (Fast) Fourier Transforming.

10.(Original) The diversity receiver according to claim 1, wherein the at least one receiving channel parameter is a receiving channel transfer function.

11.(Previously Presented) The diversity receiver according to claim 1, wherein for creating a virtual third antenna element there are provided switching means for switching from a signal on the first receiving branch to a corresponding signal on the second receiving branch.

12.(Previously Presented) The diversity receiver according to claim 1, wherein the first antenna element and the second antenna element are arranged in parallel but extend in different directions.

13.(Original) The diversity receiver according to claim 1, wherein the diversity receiver is adapted to be used in one or more of the following systems: Orthogonal Frequency Division Multiplexing (OFDM) systems, Digital Audio Broadcasting (DAB) systems, Digital Video Broadband (DVB) systems, for example DVB-T systems, Digital Terrestrial Television Broadcasting (DTTB) systems, Code Division Multiple Access (CDMA) systems, for example cellular CDMA systems, Universal Mobile Telecommunications Systems (UMTS), the Global System for Mobile communications (GSM), Digital Enhanced Cordless Telecommunication (DECT) systems, wireless local area network systems, for example according to the standard 802.11a, 802.11g, or HIPERLAN II.

14.(Currently Amended) A method for canceling or at least reducing signal distortions of a radio-first signal and a second signal received by a moving diversity receiver, wherein the signal distortions occur due to time-variations of a receiving channel in a radio system, said method comprising the following-acts of:
| receiving the radio signal at two positions differing in the direction of motion;

estimating a spatial derivative of at least one receiving channel parameter based on the radio signal received at the two positions;

interpreting the spatial derivative of the at least one receiving channel parameter as a temporal derivative of the at least one receiving channel parameter; and

exploiting the temporal derivative of the at least one receiving channel parameter to cancel or at least reduce the signal distortions

receiving the first signal on a first receiving branch having associated thereto a first antenna element;

receiving the second signal on a second receiving branch having associated thereto a second antenna element;

obtaining from the first signal and from the second signal a third signal representing an estimation of a spatial derivative of at least one receiving channel parameter;

processing the third signal to obtain a fourth signal;

processing the first signal to obtain a fifth signal; and

combining the fourth signal and the fifth signal to obtain an output signal.

15.(Previously Presented) The method according to claim 14, wherein the act of estimating the spatial derivative comprises calculating a difference between the radio signal received at a first position of said two closely spaced positions and the radio signal received at a second position of said two closely spaced positions.

16.(Currently Amended) A computer readable medium embodying a computer program, comprising instructions for canceling or at least reducing signal distortions of a radio first signal and a second signal received by a moving diversity receiver, the instructions when executed by a processor are configured for:

estimating, based on the radio signal received at two positions differing in a direction of motion of the moving diversity receiver, a spatial derivative of at least one receiving channel parameter;

interpreting the spatial derivative of the at least one receiving channel parameter as the temporal derivative of the at least one receiving channel parameter; and

exploiting the temporal derivative of the at least one receiving channel parameter to cancel or at least reduce the signal distortions

receive the first signal on a first receiving branch having associated thereto a first antenna element;

receive the second signal on a second receiving branch having associated thereto a second antenna element;

obtain from the first signal and from the second signal a third signal representing an estimation of a spatial derivative of at least one receiving channel parameter;

process the third signal to obtain a fourth signal;

process the first signal to obtain a fifth signal; and

combine the fourth signal and the fifth signal to obtain an output signal.

Claim 17 (Canceled)

18.(Currently Amended) A diversity receiver comprising:
a first antenna configured to receive a first signal on a receiving channel;
a second antenna configured to receive a second signal on the receiving channel; and

a first combiner configured to form a third signal from the first signal and the second signal;

a first processing unit configured to process the third signal to obtain a fourth signal;

a second processing unit configured to process the first signal to obtain a fifth signal; and

a second combiner configured to combine the fourth signal and the fifth signal to obtain an output signal;

wherein the third signal represents an estimation of a spatial derivative of at least one receiving channel parameter, and wherein the third signal is used to reduce signal distortions that occur due to time-variations of the receiving channel.

19.(Previously Presented) The diversity receiver of claim 18, wherein the combiner is configured to form the third signal from the first signal and a difference signal, the difference signal being a difference between the first signal and the second signal.

20.(Previously Presented) The diversity receiver of claim 19, further comprising a weighting unit configured to multiply the difference signal with a factor that depends on at least one a speed of the diversity receiver and a distance between the first antenna and the second antenna.

21.(Previously Presented) The diversity receiver of claim 19, further comprising a decorrelator configured to decorrelate the difference signal and the third signal and compute a weighting factor for weighting the difference signal.

22.(Previously Presented) The diversity receiver of claim 19, further comprising a multiplier configured to multiply the difference signal with a linearly increasing ramp function.